

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An integrated wireless local loop (WLL) and wireless local area network (WLAN) transceiver apparatus which connects a wireless local loop (WLL) base station and a plurality of wireless local area network (WLAN) terminals, comprising:

a WLL transceiver section adapted to connect to the WLL base station to transmit and receive a radio signal to and from the WLL base station;

a WLAN transceiver section adapted to connect to the plurality of WLAN terminals to transmit and receive a radio signal to and from the plurality of WLAN terminals;
and

an antenna unit for receiving the radio signal from the WLL base station or the plurality of WLAN terminals and ~~separately~~ applying the received radio signal to a corresponding processor of either the WLL transceiver section or the WLAN transceiver section.

2. (Currently Amended) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the WLL transceiver section ~~further~~ comprises:

a WLL reception processing section adapted to receive the radio signal from the WLL base station and perform a predetermined reception process for the received radio signal for use in the integrated WLL and WLAN transceiver apparatus;

a WLL transmission processing section adapted to perform a predetermined transmission process for the radio signal to be transmitted to the WLL base station; and

a digital baseband processor adapted to perform a digital signal process (DSP) for the radio signal applied thereto from the WLL reception processing section or the radio signal applied to the WLL transmission processing section therefrom.

3. (Currently Amended) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the WLAN transceiver section ~~further~~ comprises:

a WLAN reception processing section adapted to receive the radio signal from the plurality of WLAN terminals and perform a predetermined reception process for the received radio signal for application to ~~[[the]]~~ a digital baseband processor of the WLL transceiver section;

a WLAN transmission processing section adapted to receive a signal from the digital baseband processor and perform a predetermined transmission process for the received signal for radio transmission to the plurality of WLAN terminals; and

a medium access controller (MAC) adapted to supply the signal applied thereto from the digital baseband processor to the WLAN transmission processing section or supply the signal applied thereto from the WLAN reception processing section to the digital baseband processor of the WLL transceiver section.

4. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the antenna unit comprises:

a duplexer adapted to apply a radio signal received by a first antenna to the WLL reception processing section or the WLAN reception processing section; and

a triplexer adapted to apply a radio signal received by a second antenna to the WLL reception processing section or apply a signal supplied thereto from the WLL transmission processing section or the WLAN transmission processing section to the second antenna.

5. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the WLL transceiver section and the WLAN transceiver section share one phase locked loop (PLL) using a plurality of distributors.

6. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the integrated WLL and WLAN transceiver apparatus is included in a specific computer, and allows the specific computer to function as a server of the plurality of WLAN terminals.

7. (Currently Amended) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the integrated WLL and WLAN transceiver apparatus includes [[the]] a duplexer and [[the]] a triplexer in order to distribute and apply the signals collected by the antennas to each of the WLL and WLAN transceiver sections.

8. (Currently Amended) The integrated WLL and WLAN transceiver apparatus according to claim 3, wherein the plurality of WLAN terminals uses a ~~conventional~~ WLAN radio transmitter included in the plurality of WLAN terminals ~~as it is~~.

9. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 4, wherein the duplexer is connected to the first antenna used as a receive-only antenna.

10. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the antenna unit uses a space diversity antenna for preventing a fading phenomenon of a signal received through a multipath so that the first antenna and the second antenna of the diversity antenna are spaced apart from each other.

11. (Original) The integrated WLL and WLAN transceiver apparatus according to claim 10, wherein the space diversity antenna is shared by the WLL transceiver section and the WLAN transceiver section.

12. (Original) A WLL-WLAN integrated transmitting and receiving method comprising the steps of:

transmitting a data from a WLL base station and transmitting it to a WLL receiving processor;

transmitting the data which has been subjected to a predetermined procedure in the WLL receiving processor through a digital baseband processor and an MAC to a WLAN transmitting processor; and

transmitting the data which has been subjected to a predetermined procedure in the WLAN transmitting processor to the WLAN terminal.

13. (Currently Amended) The method of claim 12, wherein the data signal transmitted from the WLL base station is received through a first antenna and a second ~~antennas~~ antenna, and the signal of the first antenna is transmitted through a duplex to the WLL receiving processor and the signal of the second antenna is transmitted through a triplexer to the WLL receiving processor.

14. (Original) The method of claim 12, wherein the WLL receiving processor and the WLAN transmitting processor share a phase locked loop by using a plurality of distributors.

15. (Original) A WLL-WLAN integrated transmitting and receiving method comprising the steps of:

transmitting a data from a WLAN terminal and transmitting it to a WLAN receiving processor;

transmitting the data which has been subjected to a predetermined procedure in the WLAN receiving processor through a MAC and a digital baseband processor to a WLL transmitting processor; and

transmitting the data which has been subjected to a predetermined procedure in the WLL transmitting processor to the WLL base station.

16. (Original) The method of claim 15, wherein the WLL transmitting processor and the WLAN receiving processor share a phase locked loop by using a plurality of splitters.

17. (Currently Amended) The method of claim 15, wherein the data signal transmitted from the WLAN terminal is received through ~~[[the]]~~ a first antenna and then is transmitted through ~~[[the]]~~ a duplex to the WLAN receiving processor.

18. (Currently Amended) An apparatus comprising:
a WLL transceiver for communicating with a wireless base station;
a WLAN transceiver for communicating with one or more devices in ~~[[the]]~~ a network;
an antenna unit coupled to the WLL transceiver and to the WLAN transceiver;
and

a memory storing data and instructions to enable the processing of data to conform to a WLL signaling scheme and to enable the processing of data to conform to a WLAN signaling scheme.

19. (Original) The apparatus of claim 18, wherein the WLL transceiver and the WLAN transceiver share a single phase locked loop and a plurality of distributors.

20. (Original) The apparatus of claim 18, wherein the antenna unit includes a space diversity pair of antennas to reduce multipath fading and noise.

21. (Currently Amended) The apparatus of claim 18, wherein the WLL transceiver ~~further comprises:~~

a transmitting channel coupled to a first antenna of the antenna unit; and

a dual input receiving channel coupled to a second antenna and a third antenna of the antenna unit.

22. (Currently Amended) The apparatus of claim 21, further comprising a duplexer in the antenna unit, allowing a single antenna to serve as both the transmitting channel and ~~also as~~ as the receiving channel, according to the state of the duplexer.

23. (Currently Amended) The apparatus of claim 21, wherein the ~~transmitting channel~~ WLL transceiver further comprises one or more of the elements from the group ~~consisting~~ of AGC's, modulators, mixers, filters, D/A converters and power amplifiers.

24. (Currently Amended) The apparatus of claim 21, wherein the ~~receiving channel~~ WLL transceiver further comprises one or more of the elements from the group ~~consisting~~ of low noise amplifiers, AGC's, demodulators, mixers, filters, and A/D converters.

25. (Original) The apparatus of claim 21, further comprising a digital base band processor, which processes data such that the data conforms to a WLL signaling scheme.

26. (Currently Amended) The apparatus of claim ~~[[18]]~~ 21, wherein the WLAN transceiver ~~further~~ comprises:

a transmitting channel coupled to a fourth antenna of the antenna unit; and

a receiving channel coupled to a fifth antenna and a sixth antenna of the antenna unit.

27. (Original) The apparatus of claim 26, wherein the antenna unit comprises two antennas with a duplexer and a triplexer to provide the appropriate connections to the receiving channels and transmitting channels of the apparatus.

28. (Currently Amended) The apparatus of claim 26, wherein ~~the transmitting channel~~ of the WLAN transceiver further comprises one or more of the elements from the group ~~consisting~~ of AGC's, modulators, mixers, filters, D/A converters and power amplifiers.

29. (Currently Amended) The apparatus of claim 26, wherein the ~~receiving channel~~ WLAN transceiver further comprises one or more of the elements from the group ~~consisting~~ of low noise amplifiers, AGC's, demodulators, mixers, filters, and D/A converters.

30. (Original) The apparatus of claim 26, further comprising a medium access controller, which applies digital signal processing techniques to data such that the data conforms to a WLAN signaling scheme.

31. (Original) The apparatus of claim 30, wherein the medium access controller is further equipped to process the digital data for transfer to or from the WLL transceiver.

32. (Currently Amended) A system for providing a core network access via a wireless local area network, the system comprising:

a WLL base station connected to the core network;

a plurality of devices connected in a wireless LAN; and

an apparatus for transferring data from the WLL base station to or from the plurality of devices connected to the WLAN, said apparatus including means for translating the data between a WLAN signaling protocol and [[the]] a WLL signaling protocol.

33. (New) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the antenna unit applies received signals to a WLL reception processing section of the WLL transceiver section.

34. (New) The integrated WLL and WLAN transceiver apparatus according to claim 1, wherein the antenna unit applies received signals to a WLAN reception processing section of the WLAN transceiver section.

35. (New) The apparatus of claim 18, wherein the antenna unit applies received signals to the WLL transceiver and to the WLAN transceiver.